TRION®
air purification systems

QUICK FACTS

GAS / ODOR ADSORPTION

Capacity Index Chart

SUBSTANCE	POTASSIUM PERMANGANATE INDEX	ACTIVATED CARBON INDEX	COMMENTS
Acetaldehyde	4	2	
Acetic acid	4	4	Vinegar
Acetic anhydride		4	
Acetone	4	4	Solvent
Acetylene	2	1	Welding & Cutting
Acrolein	4	3	
Acrylic acid	4	4	
Acrylonitrile	3	4	
Adhesives		4	
Air-Wick		4	
Alcoholic beverages		4	
Amines		2	
Ammonia	1	2	
Amyl acetate	4	4	Lacquer Solvent
Amyl alcohol	4	4	Fuel Oil
Amyl ether	4	4	
Animal odors		3	
Anesthetics		3	
Aniline	1	4	
Antiseptics		4	
Asphalt fumes		4	
Automobile exhaust		3	
Bathroom smells		4	Highly adsorbable
Benzene		4	Benzol, Paint Solvent & Remover
Bleaching solutions		3	
Body odors		4	
Borane		3	
Bromine		4	May partially hydrolyze to HBr
Burned flesh		4	
Burned food		4	Highly adsorbable
Burning fat		4	Highly adsorbable
Butadiene	2	3	
Butane	1	2	Heating
Butanone	4	4	
Butyl acetate	4	4	Lacquer Solvent
Butyl alcohol	4	4	
Butyl cellosolve		4	
Butyl chloride		4	Local Anesthetic
Butyl ether	4	4	
Butylene	3	2	
Butyne		2	
Butyraldehyde	4	3	
Butyric acid	4	4	
Camphor		4	
Caproic acid	4		
Caprylic acid	4	4	Animal Odors
Carbolic acid		4	
Carbon disulfide		4	
Carbon dioxide		1	
Carbon monoxide	3	1	
Carbon tetrachloride		4	Cleaning Fluid, Solvent
Cellosolve		4	
Cellosolve acetate		4	
Charred materials		4	
Cheese		4	
Chlorine		3	May partially hydrolyze to HCl
Chlorobenzene		4	
Chlorobutadiene		4	
Chloroform		4	Anesthetic, Solvent
Chloronitropropane		4	

SUBSTANCE	POTASSIUM PERMANGANATE INDEX	ACTIVATED CARBON INDEX	COMMENTS
Chloropicrine		4	
Chloroprene	3		
Cigarette smoke odor		4	
Citrus and other fruit		4	
Cleaning compounds		4	
Combustion odors		3	
Cooking odors	3	4	Highly adsorbable
Corrosive gases		3	
Creosote		4	
Cresol		4	Ingredient of Creosote, Wood Preservative
Crotonaldehyde	4	4	Solvent, Tear Gas
Cyclohexane	2	4	
Cyclohexanol	4	4	
Cyclohexanone	4	4	
Cyclohexene	4	4	
Dead animals		4	
Decane	1	4	Kerosene
Decaying substances		4	
Deodorants		4	
Detergents		4	
Dibromethane		4	
Dichlorobenzene		4	
Dichlorodifluoromethane		4	
Dichloroethane		4	
Dichloroethylene		4	
Dichloroethyl ether		4	
Dichloromonofluormethane		3	
Dichloronitroethane		4	
Dichloropropane		4	
Dichlorotetrafluoroethane		4	
Diesel fumes		4	
Diethylamine	4	3	
Diethylene triamine	4		
Diethyl ketone	4	4	Solvent
Dimethylaniline		4	
Dimethylsulfate		4	
Dioxane		4	
Dipropyl ketone		4	Solvent
Disinfectants		4	
Embalming odors		4	
Ethane	1	1	
Ether	4	3	Illuminating gas

SUBSTANCE	POTASSIUM PERMANGANATE INDEX	ACTIVATED CARBON INDEX	COMMENTS
Ethyl acetate	4	4	Lacquer Solvent
Ethyl acrylic	4	4	
Ethyl alcohol	4	4	Grain Alcohol
Ethyl amine		3	
Ethyl benzene		4	
Ethyl bromide		4	
Ethyl chloride		3	Local Anesthetic
Ethyl ether	4	3	Ether - Medical
Ethyl formate	4	3	
Ethyl mercaptan		3	Garlic, Onion, Sewer
Ethyl silicate		4	
Ethylene	3	1	Illuminating Gas, Anesthetic
Ethylene chlorhydrin		4	
Ethylene diamine	4		
Ethylene dichloride		4	
Ethylene oxide	4	3	
Eucalyptole		4	
Fertilizer		4	
Film processing odors		3	
Fish odors	3	4	
Floral scents		4	
Fluorotrichloromethane		3	
Food aromas	3	4	
Formaldehyde	4	2	Disinfectant, Plastic Ingredient
Formic acid	4	3	
Fuel gases		2	
Gangrene		4	
Garlic	3	4	
Gasoline		4	
Heptane	2	4	Gasoline
Heptylene	3	4	
Hexane	2	3	Gasoline
Hexylene	3	3	
Hexyne		3	
Hospital odors		4	
Household smells		4	
Hydrogen	4	1	
Hydrogen bromide		2	
Hydrogen chloride		2	
Hydrogen cyanide	2	2	
Hydrogen fluoride		2	
Hydrogen iodide		3	
Hydrogen selenide		2	

SUBSTANCE	POTASSIUM PERMANGANATE INDEX	ACTIVATED CARBON INDEX	COMMENTS
Hydrogen sulfide		3	
Indole	2	4	Excreta
Iodine		4	May partially hydrolyze to HI
Iodoform	4	4	Antiseptic
Isophorone		4	
Isoprene	2	3	Solvent
Isopropyl acetate		4	
Isopropyl alcohol	3	4	
Isopropyl ether		4	
Isovaleric acid	4		
Kerosene	3	4	
Kitchen odors	3	4	Highly adsorbable
Lactic acid	3	4	Sour Milk
Liquid fuels		4	
Liquor odors	3	4	
Lubricating oils & greases		4	
Lysol		4	
Medicinal odors		4	
Melons	3	4	
Menthol		4	
Mercaptans		4	
Mesityl oxide		4	
Methane		1	Illuminating Gas
Methyl acetate		3	Solvent
Methyl acrylate		4	Apt to polymerize
Methyl alcohol		3	Wood Alcohol
Methyl bromide		3	
Methyl butyl ketone		4	
Methyl cellosolve		4	
Methyl cellosolve acetate		4	
Methyl chloride		3	Refrigerant
Methyl chloroform		4	
Methyl ether		3	
Methyl ethyl ketone [MEK]		4	Solvent
Methyl formate		3	
Methyl isobutyl ketone		4	
Methyl mercaptan		4	Garlic, Onion, Sewer
Methylcyclohexane		4	
Methylcyclohexanol		4	
Methylcyclohexanone		4	
Methylene chloride		4	

SUBSTANCE	POTASSIUM PERMANGANATE INDEX	ACTIVATED CARBON INDEX	COMMENTS
Mildew		3	
Mold		3	
Monochlorobenzene		4	
Monofluorotrichloromethane		4	
Moth balls		4	
Naptha (coal tar)		4	
Naptha (petroleum)		4	
Naphthalene		4	Moth Balls
Nicotine	4	4	Tobacco
Nitric acid	2	3	
Nitro benzenes		4	Oil of Bitter Almonds & Mirbane
Nitroethane		4	
Nitrogen dioxide		2	May partially hydrolyze to HNO_3
Nitroglycerine		4	
Nitromethane		4	
Nitropropane		4	
Nonane	1	4	Kerosene
Octalene		4	
Octane		4	Gasoline
Onions	3	4	
Organic chemicals		4	
Ozone		4	
Packing house odors	3	4	Highly adsorbable
Paint and decorating odors		4	
Palmitic acid	4	4	Palm Oil
Paper deterioration		4	
Paradichlorobenzene		4	
Paste and glue		4	
Pentane	1	3	Light Naptha
Pentanone	4	4	
Pentylene		3	
Pentyne	3	3	
Perchloroethylene	1	4	
Perfumes & cosmetics		4	
Pet odors	3	4	
Phenol	4	4	Plastic ingredient
Phosgene	4	3	Poison Gas, Reagent
Pitch		4	
Plastics		4	
Pollen		3	
Poultry odors	3	4	
Propane	1	2	Heating Gas

SUBSTANCE	POTASSIUM PERMANGANATE INDEX	ACTIVATED CARBON INDEX	COMMENTS
Propionaldehyde	4	3	
Propionic acid	4	4	
Propyl acetate	4	4	Lacquer Solvent
Propyl alcohol	4	4	
Propyl chloride		4	Local Anesthetic
Propyl ether	4	4	
Propyl mercaptan		4	Garlic, Onion, Sewer
Propylene	2	2	Coal Gas
Propyne		2	
Putrescine		4	Decaying Flesh
Pyridine	2	4	Burning Tobacco
Radiation products		2	
Rancid oils		4	
Resins		4	
Rubber		4	
Sewer odors		4	
Skatole	2	4	Excreta
Smog		4	
Soaps		4	
Solvents		3	
Stoddard solvent		4	
Styrene monomer		4	
Sulfur dioxide		2	Oxidizes to SO_3
Sulfur trioxide		3	Hydrolyzes to H_2SO_4
Sulfuric acid		4	
Tar		4	
Tetrachloroethane		4	
Tetrachloroethylene		4	
Toluene		4	Manufacture of TNT
Toluidine		4	
Trichlorethylene		4	
Trichloroethane		4	
Triethyl amine	3		
Turpentine	3	4	
Urea		4	Urine
Uric acid	4	4	Urine
Valeric acid	4	4	Sweat, Body Odors
Valericaldehyde	4	4	
Varnish fumes		4	
Vinyl chloride		3	
Wood alcohol		3	
Xylene	1	4	Solvent

Some of the contaminants listed in the table are specific chemical compounds. Some represent classes of compounds and others are mixtures and of variable composition. Activated charcoal and potassium permanganate capacity for odors varies somewhat with the concentration and with humidity and temperature. The numbers given represent typical or average conditions and might vary in specific instances.

The capacity index has the following meaning —

4. High capacity for all materials in this category. One pound takes up about 20% to 50% of its own weight — average about ⅓ (33⅓%). This category includes most of the odor causing substances.
3. Satisfactory capacity for all items in this category. These constitute good applications but the capacity is not as high as for category 4. Absorbs about 10% to 25% of its weight — average about ⅙ (16.7%).
2. Includes substances which are not highly adsorbed but which might be taken up sufficiently to give good service under the particular conditions of operation. These require individual checking.
1. Adsorption capacity is low for these materials. Activated charcoal or potassium permanganate cannot be satisfactorily used to remove them under ordinary circumstances.

TRION
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